NEURALERT Technologies LLC

Automated Stroke Detection To Improve Hospital Outcomes

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In-hospital Strokes are a big problem

#1 Cause of severe, long term disability

10% Happen in the hospital

50% Aren’t detected within 4.5 hours

27% Die

In-hospital strokes have worse outcomes

The Reasons

- Procedures increase stroke risk and severity
- Bed bound and sedation obscures symptoms
- Staff unable to perform consistent and timely checks

The Results

- Strokes detected too late for effective treatment
- Increased LOS, morbidity & mortality adds cost
- Litigation settlement exceeds $1.8M per event

Neuralert

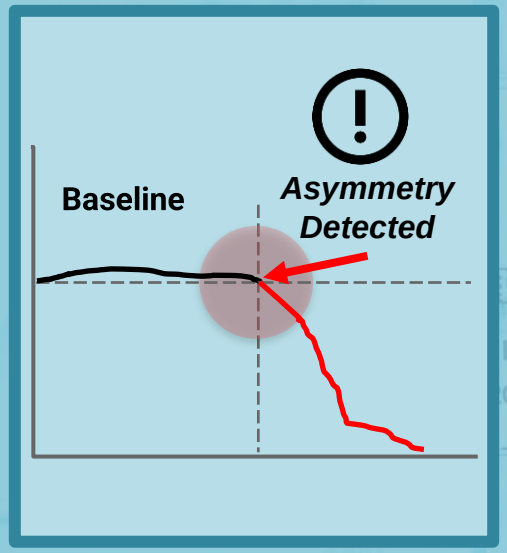
Non-invasive, wearable devices automatically detect stroke symptoms

Immediately alerts hospital staff to speed treatment

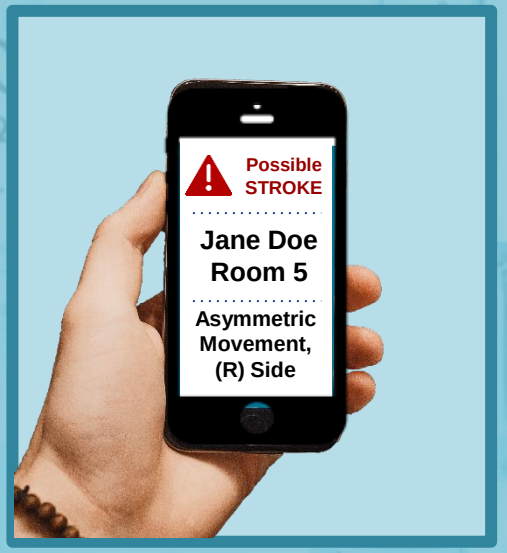
Neuralert saves lives, improves outcomes, and reduces cost and risk

Rapid detection and alerting of stroke symptoms

Neuralert devices monitor asymmetrical arm movements



Proprietary algorithm determines stroke likelihood



Alerts enable rapid response and treatment

“Secret Sauce” is unique algorithm

Accelerometer data indicates Asymmetry

Detecting stroke from accelerometer data is hard

Confounding factors affecting data interpretation

- Dominant hand
- Sedation levels
- Sleep vs. awake
- Phone/device usage
- Eating meals
- Patient fidgeting with device
- Patient visitation
- Patient activities
- Limb restraints
- Placement on arms
- Catheter placements
- Telemetry wires
- Vital sign monitoring
- Medical interventions
- Bed and patient position
- Inter-patient movement
- Intra-patient movement

Parameter-invariant Algorithm*

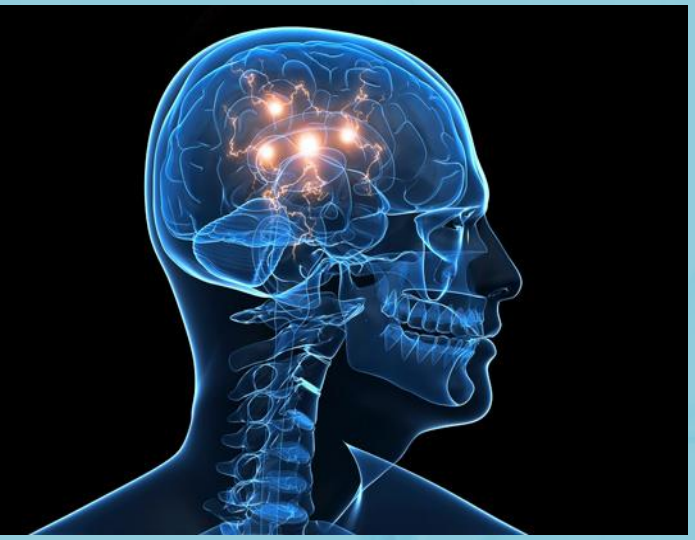
Models and removes the effects of confounding factors from accelerometer data

Current Performance

- **82% detection rate within 1 hour**
- **<5 false alarms/day**

*Exclusive license from Univ of Penn
*Patent pending

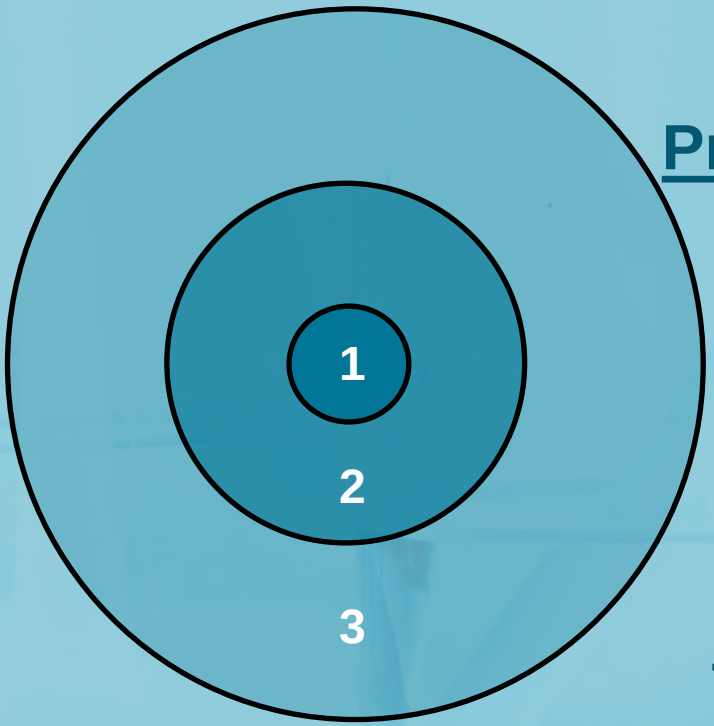
Neuralert vs. Standard of Care



Neuralert detects >80% of ischemic strokes in less than 1 hour

Less then 50% of hospital strokes are currently identified within 4.5 hours

Market: Acute care, high stroke risk patients



Primary Target

Medical Centers specializing in high risk Cardiovascular and Neurological procedures

Expansion

Monitor all patients with elevated risk of stroke

Downstream

Non-acute care

International

Consumer product

Hybrid SaaS model

Recurring Service Fee + Smart Bands

Hybrid SaaS pricing

- **$5,000 annual SaaS seat license fee**
- **$200 per pair reusable Smart Bands**

Per patient cost

$130*

*** Assumes 40 patients/seat/year**

Reduced hospital cost

- **$2,000 per day**
- **2 – 28 additional days**

Sizable target with significant growth potential

Target

Hospitals performing high stroke risk procedures

(1.7M procedures - 10% overlap X $5,000 SaaS ÷ (40 patients per annual $5,000 seat fee) + $200 per pair of Smart Bands

Expansion*

Elevated stroke risk and elderly

(15.6M patients X 5% Admit rate) + (12.8M 65+ Admits) X 25% over lap ÷ (40 patients per annual $5,000 seat fee)

*** US/Acute Care only**

Competitive Landscape

Limited competitors

Asymmetry based stroke detection

- Incubator status
- Relies solely on machine learning/AI
- Focused on Rehab and SNF Markets

Multiple partners

Diagnosing and Treating Strokes

Boston Scientific
Advancing science for life™

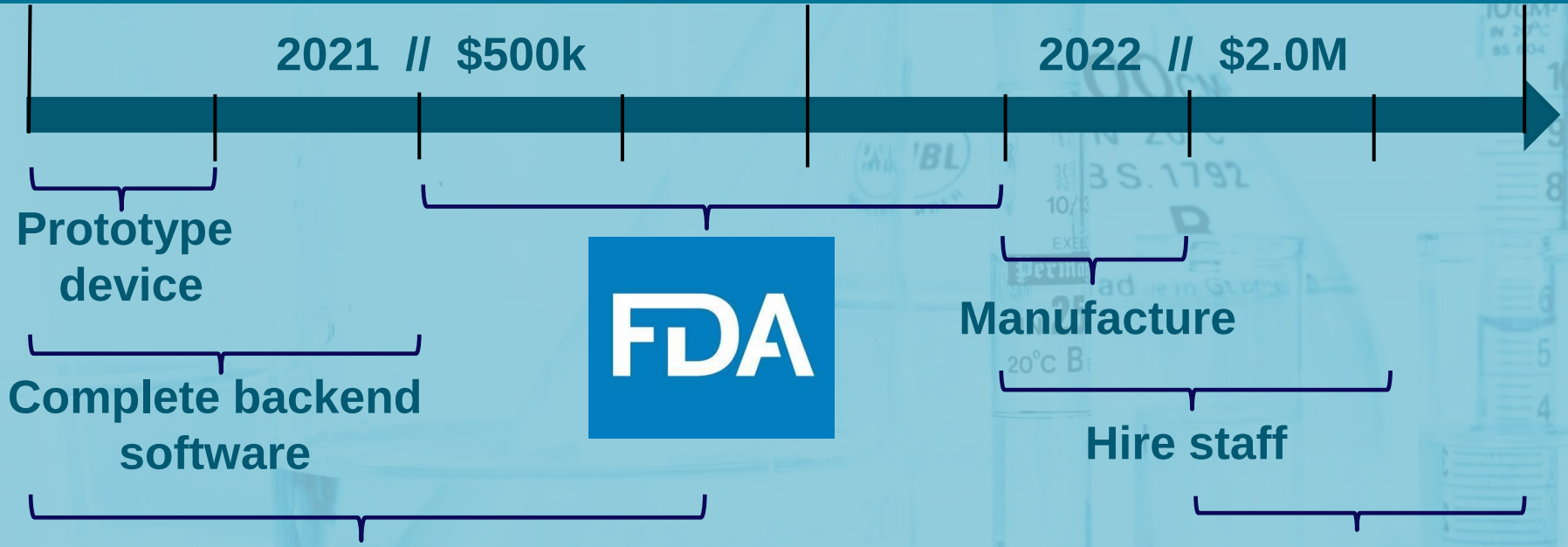
Penumbra

Concentric MEDICAL

Medtronic

Genentech

Path to profitability



Experienced team, proven success

Dr. Steven Messé

Co-founder

Professor, Dept of Neurology, Univ of Penn, Director of the Center for Neuro-Cardio Protection, Michael S. Pessin Stroke Leadership Award from American Academy of Neurology

Dr. Jim Weimer

Co-founder

Research Assistant Professor Dept. of Computer and Information Science Univ of Penn, Dept. of Biomedical and Health Informatics, Children's Hospital of Philadelphia

Bhavana Mohanraj

Advisor, Board Member

Assistant Director, PCI Ventures managing a portfolio of life sciences startups. PhD in Bioengineering with medical device experience.

Eric Corkhill

CEO

40 year Health IT veteran focused on improving clinical decision making. Managed six prior start ups resulting in five exits totaling $500M

Det Ansinn

CTO

President and Founder, Brick Simple, LLC,. Extensive experience leading startup and Fortune 500 companies developing mobile and wearable healthcare technologies

Funding Uses and Projections

Funding to date & uses

$47,500 (Grants/Accelerator

- **AWS platform**
- **Band prototype**
- **FDA assistance**

Total raise needed

$2.5 - $3.5 million

- **$500k testing/building**
- **$2.5 (FDA 510(k)**
- **$3.5 (FDA De Novo)**

Exit possibilities

#1 Medical Device (e.g. Medtronic)
#2 Consumer health (e.g. Apple)
#3 IPO

Category / Year	2021	2022	2023	2024	2025
Seat Licenses	0	200	950	2000	3500
Income (mill)	$0	$1.08	$5.13	$16.20	$35.10
COGS	$.332	$1.989	$5.496	$9.467	$14.29
EBITDA	($.332)	($.909)	($.366)	$6.73	$20.81

End in-hospital stroke devastation

- Big Problem
- Innovative Technology
- Significant Opportunity
- Positive Landscape
- Experienced Team

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